HAINKE Staubfilter GmbH

P.O. Box 12 48
27795 Hude

An der Imbäke 7
27798 Hude

phone +49 4408 8077-0
fax +49 4408 8077-10
e-mail info@hainke.de
web www.hainke.de

Operating instructions

electronic solenoid valve control type IFC 12

Driftinstruktion
Bedrijfshandleiding
Instruções de serviço
Instrucciones de servicio
Istruzioni per l`ésercizio
Instruction de service
Betriebsanleitung

Operating instructions

electronic solenoid valve control type IFC 12

HAINKE Staubfilter GmbH

P.O. Box 12 48
27795 Hude

An der Imbäke 7
27798 Hude

phone +49 4408 8077-0
fax +49 4408 8077-10
e-mail info@hainke.de
web www.hainke.de

Operating instructions

electronic solenoid valve control type IFC 12

Table of content

1 Safety precautions and warnings 2
1.1 Designation of electrical apparatus for explosion hazardous areas 3
1.2 Operation of the unit in the add-on housing 4
1.3 Remarks for special conditions for safe use 4
in explosion hazardous areas zone 22 4
2 Use as agreed 4
3 Technical data 5
4 Installation 7
4.1 Safety notes for the installation 8
4.2 Safety notes for the installation of the add-on housing 8
5 Electrical connection 12
6 Commissioning 14
7 Control and signal funtions 17
7.1 Remote control input R 17
7.2 Operational message 17
7.3 Pressure Switch Input P 18
7.4 Post Cleaning 19
8 Fault messages 19
8.1 Causes of fault and elimination 20

Appendix

A Declaration of conformity

HAINKE Staubfilter GmbH

P.O. Box 12 48
27795 Hude

An der Imbäke 7
27798 Hude

phone +49 4408 8077-0
fax +49 4408 8077-10
e-mail info@hainke.de
web www.hainke.de

Operating instructions

electronic solenoid valve control type IFC 12

1 Safety precautions and warnings

IMPORTANT NOTICE!

Non-observance of the safety instructions can result in severe personal injury or property damage.

This equipment may be installed, connected, commissioned, operated and maintained by qualified and authorised personnel only, under strict observance of these operating instructions, any relevant standards and legal requirements.

Take particular note of the general and regional installation and safety regulations regarding work on high voltage installations (e.g. VDE), as well as the relevant regulations regarding the correct use of tools and personal protective gear.

Hazardous voltages are present in this electrical equipment during operation.

HAINKE Staubfilter GmbH

P.O. Box 12 48
27795 Hude

An der Imbäke 7
27798 Hude

phone +49 4408 8077-0
fax +49 4408 8077-10
e-mail info@hainke.de
web www.hainke.de

Operating instructions

electronic solenoid valve control type IFC 12

1.1 Designation of electrical apparatus for explosion hazardous areas

Designation according to Directive 94/4/EC:	**II 3D**
Sign	**Signification**
II	Equipment group II
3	Equipment category 3
D	For explosive mixtures of air and combustible dust

Particular addition to EN 60079-0	**Ex tc IIIB T80°C Dc X IP65 Ta:-5°C … +40°C**
Ex	Ex-protection at European standard
tc	Protection class: protection by enclosure, use in category 3D
IIIB	Dust-group: non-conductive dust
T80°C	Maximum surface temperature
Dc	EPL= Equipment Protection Level: Dust (II 3D)
X	Remarks for special conditions for safe use
IP 65	Ingress protection IP 65
Ta: -5°C … +40°C	Permissible operating temperature range

Areas of application	
Equipment category	**Explosive dust air mixtures (D)**
Category 1	Zone 20, 21 or 22
Category 2	Zone 21 or 22
Category 3	Zone 22 not conductive dust
Equipment group II Category 3D **Electrical apparatus for use in the presence of combustible dust**	Equipments, that are constructively arranged to operate in agreement with the characteristic quantities given by the manufacturer and ensure a normal measure of safety. Equipments of this category are intended for the use in areas where you have not to calculate with an explosive atmosphere of dust whirled up. If an explosive atmosphere appears nevertheless, in all probability it will be only rare and during a short time period.

HAINKE Staubfilter GmbH

P.O. Box 12 48
27795 Hude

An der Imbäke 7
27798 Hude

phone +49 4408 8077-0
fax +49 4408 8077-10
e-mail info@hainke.de
web www.hainke.de

1.2 Operation of the unit in the add-on housing

ATTENTION!

The control may be worked in the normal operation only with closed lid.

For commissioning and maintenance work with power on you must make sure that no explosive atmosphere of dust-air mixture is present or could occur.

Otherwise the lid may be opened only if the power is switched off.

At least the ingress protection IP54 must be guaranteed.

1.3 Remarks for special conditions for safe use in explosion hazardous areas zone 22

ATTENTION!

1. Permissible operating temperature range Ta: -5°C to +40°C.
2. The control has to be installed within the visual range and must be protected from any mechanical damage.
3. The control must be protected for ultraviolet light (daylight or ultraviolet light from lamps) respectively mounted in a protected place.
4. Avoid dust deposits on the unit.
5. To avoid electrostatic charging clean the unit with a damp cloth only. Rubbing with nonconductive materials must be strictly avoided.

2 Use as agreed

NOTE!

If used incorrectly application-related dangers may arise.

The control was developed for the cyclic dedusting of filterelements with compressed air impulses.

Up to 12 solenoid valves can be controlled in rotation, with adjustable impulse and delay timing periods.

A 24VDC-Remote control input is available for an external start.
A potential free relay contact is availabe to give an operatinal message to a host system.

The control must not be operated outside of its electrical, thermal and mechanical performance limits.

HAINKE Staubfilter GmbH

P.O. Box 12 48
27795 Hude

An der Imbäke 7
27798 Hude

phone +49 4408 8077-0
fax +49 4408 8077-10
e-mail info@hainke.de
web www.hainke.de

Operating instructions

electronic solenoid valve control type IFC 12

3 Technical data

Supply voltage (see type plate)	**220 to 240VAC 50/60Hz**	**110 to 120VAC 50/60Hz**	**24VDC**
voltage tolerance	+/- 5%		24-32VDC
	switchable with mains switch		
fuse	315mA medium slow	630mA medium slow	1,6A medium slow
quiescent current consumption	typically 40mA	typically 80mA	typically 60mA

Type	**IFC 12 E in add-on housing polycarbonate**	**IFC 12 PE in add-on housing polyester**	**IFC 12 S in metal chassis**
output	1-12 solenoid valve outputs 24VDC, output power max. 24W/1A, activated manually by means of a multi-contact switch. All outputs are suppressed with a recovery diode.		
impulse period	adjustable from 60 to 600 ms, indicated by red LED		
delay period	adjustable from ***6 to 60*** ms, indicated by green LED		
Post cleaning	Selectable from 0 to 5 cycles, delay period is automatically reduced		
indication by LED	red: overload, lack of air, pneumatic fault, wire breakage, collect fault green: operational signal (active)		
signal output	operational signal, LED green, potential-free relay contact, normally open, contact load max.: I = 0,5A, U = 230VAC		
control input 24VDC	R: Remote control input, yellow LED, P: Input for pressure switch, yellow LED, current consumption approx. 15mA,		
supply voltage for external triggers	24VDC, 50mA max.		
housing material	polycarbonate, transparent lid	Polyester, glass-fibre, reinforced surface resistance <10^9 Ω (anti-static)	metal, powder-coated
colour	RAL 7035 (light grey)	RAL 9005 (deep black)	
installation	wall installation		on carrier profiles 35 mm

HAINKE Staubfilter GmbH

P.O. Box 12 48
27795 Hude

An der Imbäke 7
27798 Hude

phone +49 4408 8077-0
fax +49 4408 8077-10
e-mail info@hainke.de
web www.hainke.de

Operating instructions

electronic solenoid valve control type IFC 12

Type	IFC 12 E in add-on housing polycarbonate	IFC 12 PE in add-on housing polyester	IFC 12 S in metal chassis
ingress protection	IP65 to EN 60529		IP 20 for cabinet mounting
dimensions (B x H x T)	160 x 240 x 90 mm	160 x 260 x 91 mm	150 x 196 x 61 mm
weight	1,7kg	3,1kg	1,65kg
cable entries	3 x M16, 2 x M20		-
clamp range of cable entries	M16 for 4,0 to 8,0 mm M20 for 6,5 to 12,0 mm or 10,0 to 14mm		-
connection cross section	0,2 to 2,5 mm²		
ex-approval to ATEX	 II 3D Ex tc IIIB T80°C Dc X IP65 Ta: -5°C …+40°C	 II 3D Ex tc IIIB T80°C Dc IP65	-
maximum surface temperature *T* of the housing (category 3D) at 40°C ambient temperature	80°C		-
Permissible ambient temperature	Ex-area zone 22: Ta: - 5 °C to + 40°C Not ex-area: - 20 °C to + 40°C	- 20 °C to + 40°C	- 20 °C to + 55°C
Conformity	• Low voltage directive 2006/95/EC (EN 60204-1) • Electromagnetic compatibility directive 2004/108/EC t (EN 61000-6-1, EN 61000-6-2, EN 55014-1) • ATEX directive 94/9/EC (EN 60079-0, EN60079-31)		• Low voltage directive 2006/95/EC (EN 60204-1) • Electromagnetic compatibility directive 2004/108/EC (EN 61000-6-1, EN 61000-6-2, EN 55014-1)
	CE		

HAINKE Staubfilter GmbH

P.O. Box 12 48
27795 Hude

An der Imbäke 7
27798 Hude

phone +49 4408 8077-0
fax +49 4408 8077-10
e-mail info@hainke.de
web www.hainke.de

4 Installation

ATTENTION!

Observe relevant regulations!

For use in Ex-Area you have to check whether the unit with the Ex-approval is suitable for the application.

(refer to type plate and technical data)

In general The control is to be installed in a vibration-free location.

Add-on housing The control in the add-on housing is suitable for the installation in the plant. To be used in the explosion-hazardous areas (ex-areas) zone 22 not-conductive dust and in not ex-areas.

After removal of the lid, the mounting holes are accessible.

Add-on housing polycarbonate The polycarbonate add-on housing is suitable for use indoors. For the installation outdoors the housing must be protected for weather influences with a roof or similar.

Refer to drawing 4.1 for mounting dimensions.

Add-on housing polyester The polyester add-on housing could be installed indoors and outdoors under hard conditions. The mechanical resistance is high. Polyester is absolutely corrosion-proof and high-resistance against aggressive chemical medium and weather resistant.

Refer to drawing 4.2 for mounting dimensions

Metal chassis The control in the metal chassis is suitable for cabinet mounting with quick-to-fasten clamps. Fitting to 35mm carrier profiles according to DIN EN 50022.

Refer to drawing 4.3.

HAINKE Staubfilter GmbH

P.O. Box 12 48
27795 Hude

An der Imbäke 7
27798 Hude

phone +49 4408 8077-0
fax +49 4408 8077-10
e-mail info@hainke.de
web www.hainke.de

4.1 Safety notes for the installation

IMPORTANT NOTICE!

- Install according to the manufacturer´s instructions and the respective national regulations and provisions as well as the relevant installation regulations.
- Connect and carry the ground wire.

4.2 Safety notes for the installation of the add-on housing

IMPORTANT NOTICE!

The unit must be installed such that the degree of protection IP 65 to EN 60529 is guaranteed (state of delivery).

Therefore it is important

- to fix all screws of the lid,
- to mount the cable entries competently,
- to close unnecessary cable entries with stoppers,
- to use in the ex-area only cable glands and stoppers approved for this area.
- The requirements of the EN 60079-14 must be met.

In addition, only the connection of permanently installed cable and wire is allowed. A corresponding strain relief must be ensured.

HAINKE Staubfilter GmbH

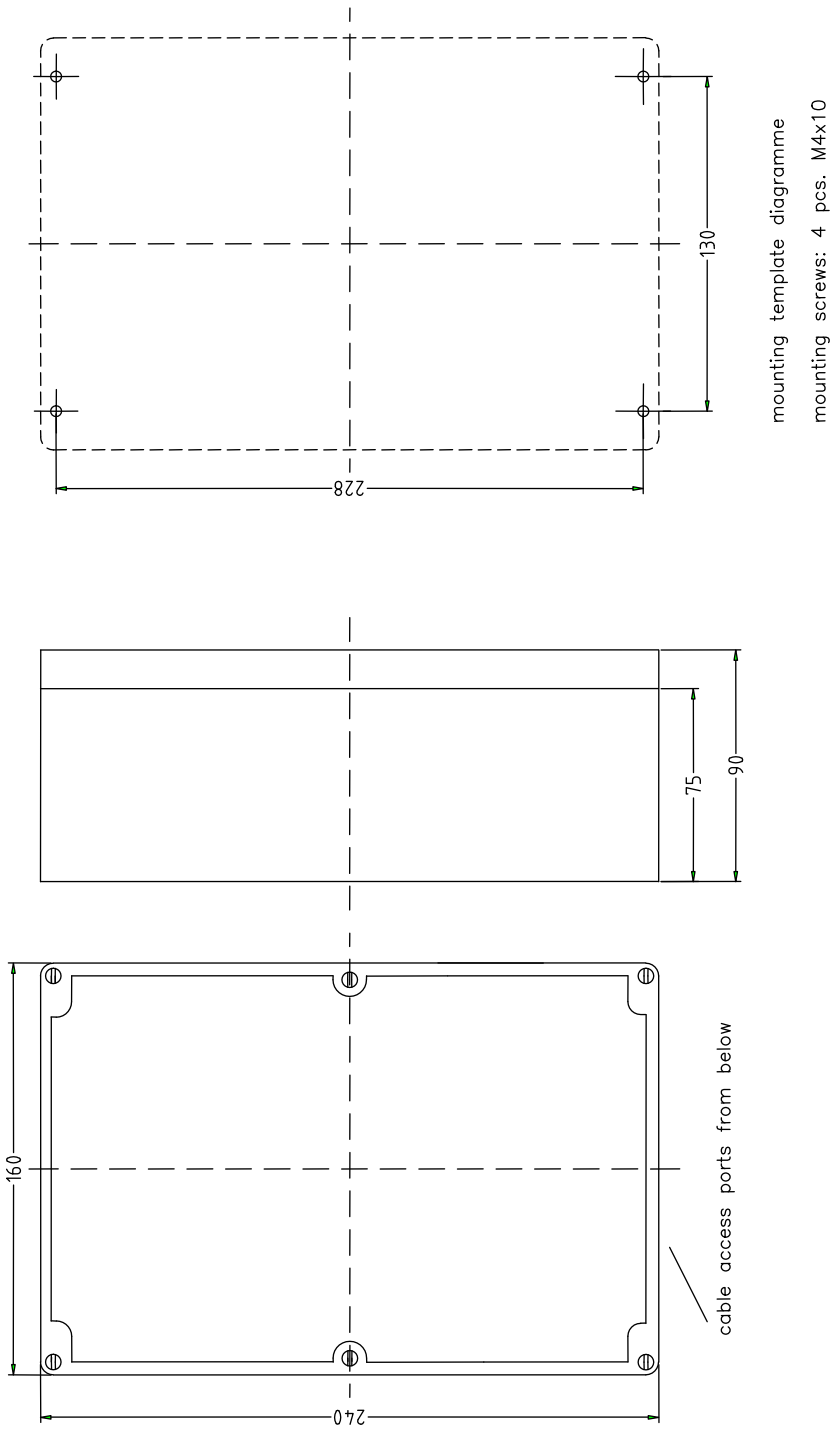
P.O. Box 12 48
27795 Hude

An der Imbäke 7
27798 Hude

phone +49 4408 8077-0
fax +49 4408 8077-10
e-mail info@hainke.de
web www.hainke.de

Operating instructions

electronic solenoid valve control type IFC 12



Drawing 4.1: Add on housing

HAINKE Staubfilter GmbH

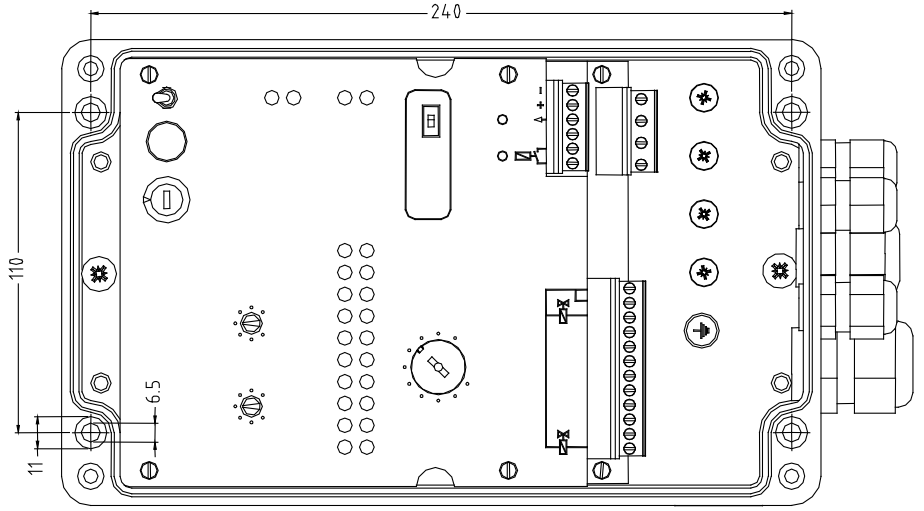
P.O. Box 12 48
27795 Hude

An der Imbäke 7
27798 Hude

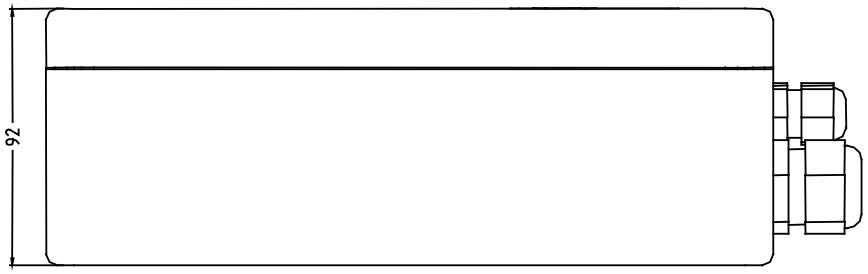
phone +49 4408 8077-0
fax +49 4408 8077-10
e-mail info@hainke.de
web www.hainke.de

Operating instructions

electronic solenoid valve control type IFC 12



mounting dimensions
mounting screws:
4 pcs. M6x30 mm



Drawing 4.2: Add-on housing Polyester

HAINKE Staubfilter GmbH

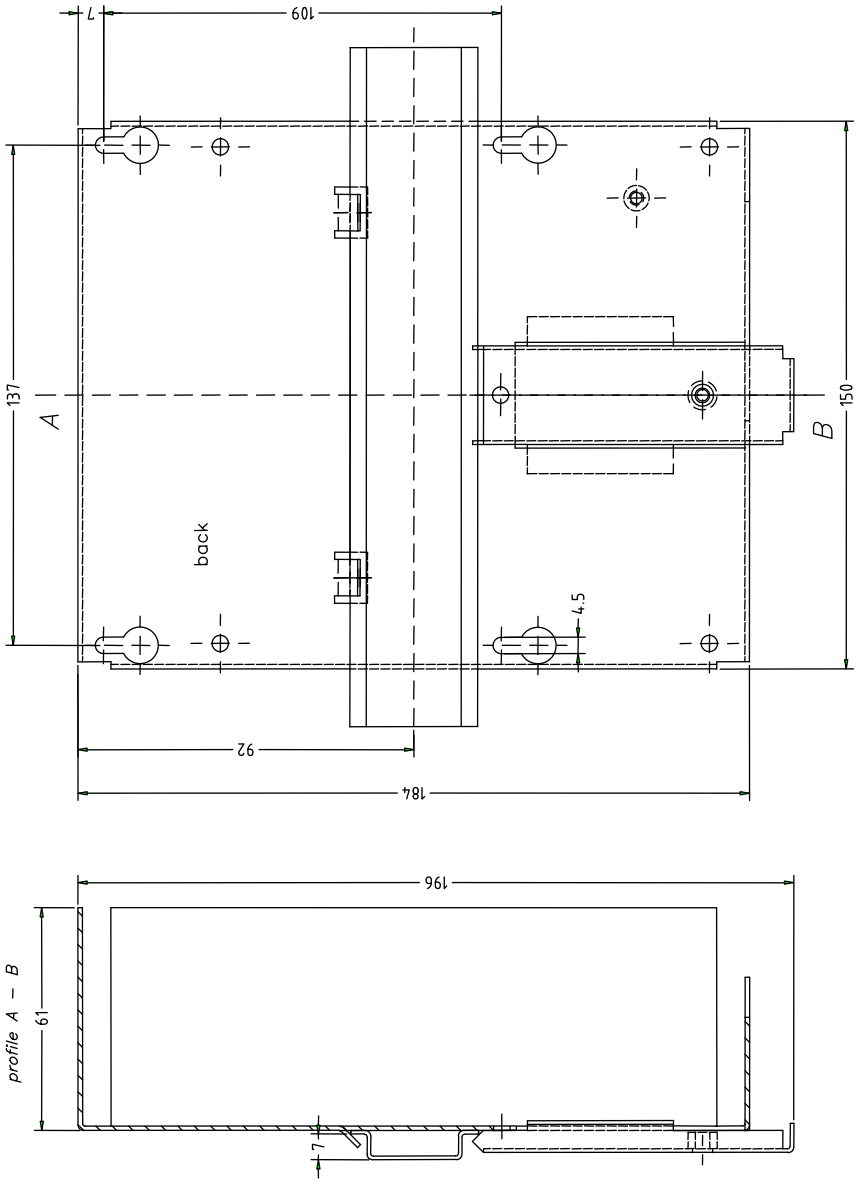
P.O. Box 12 48
27795 Hude

An der Imbäke 7
27798 Hude

phone +49 4408 8077-0
fax +49 4408 8077-10
e-mail info@hainke.de
web www.hainke.de

Operating instructions

electronic solenoid valve control type IFC 12



Drawing 4.3:
Metal chassis as a rack-mountable version

HAINKE Staubfilter GmbH

P.O. Box 12 48
27795 Hude

An der Imbäke 7
27798 Hude

phone +49 4408 8077-0
fax +49 4408 8077-10
e-mail info@hainke.de
web www.hainke.de

5 Electrical connection

IMPORTANT NOTICE!

The unit may only be connected to the supply voltage as indicated on the type plate.

The connection of 115 VAC or 230 VAC to a control for 24 VDC will lead to destruction of the entire control unit.

In general

The control is to be connected according to drawing 5.1.

The values given in the technical specification are to be observed (refer to section 3).

Supply voltage

The supply voltage is to be connected to contact strip (1). L and N or L+ and M.

(refer to drawing 6.1).

Solenoid valves

The solenoid valves are to be connected to contacts 1 to 12 on contact strip (2). The plus poles of the solenoid valves must be bound together and connected to contacts 13 and 14.

Connect the ground wire to PE on contact strip (1). At the polyester add on housing it is also possilble on connect the ground wire on the mounting plate.

The power of the conntected solenoid vales may not be exceeded the maximum output power.

Operating signal output

The operating signal output is available at contacts 21 and 22 on contact strip (3). It´s a potential-free normally open relay contact (refer to Section 7.2).

remote control input (R)

Contact 24 on contact strip (3) is for connection of the remote control signal. Refer also to Section 7.1.

Signal input (F)

Contact 24 on contact strip (3) is for connection of the remote control signal.

Supply of power to the triggers is available from contact 25, plus 24VDC and contact 26 0V potential.

Refer also to Section 7.1.

HAINKE Staubfilter GmbH

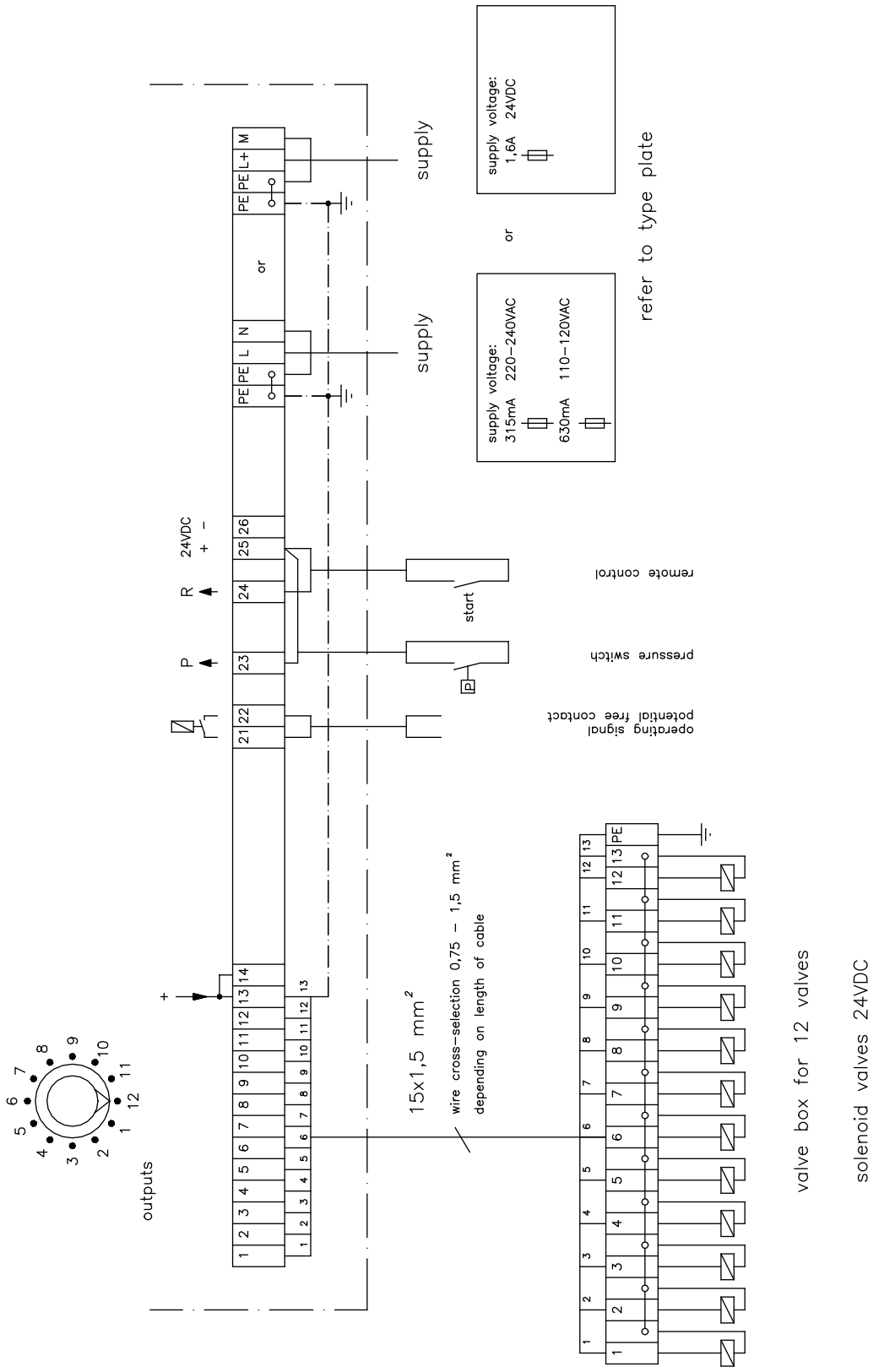
P.O. Box 12 48
27795 Hude

An der Imbäke 7
27798 Hude

phone +49 4408 8077-0
fax +49 4408 8077-10
e-mail info@hainke.de
web www.hainke.de

Operating instructions

electronic solenoid valve control type IFC 12



Drawing 5.1: Electrical Connection

HAINKE Staubfilter GmbH

P.O. Box 12 48
27795 Hude

An der Imbäke 7
27798 Hude

phone +49 4408 8077-0
fax +49 4408 8077-10
e-mail info@hainke.de
web www.hainke.de

6 Commissioning

ATTENTION!

For commissioning and maintenance work you must make sure that no explosive atmosphere of dust-air mixture is present or could occur.

Otherwise the lid may be opened only if the power is switched off.

The control must not be operated outside of its electrical, thermal and mechanical performance limits.

The following points are to be carried out in the sequence given for initial operation. Refer to drawing 6.1:

- Set the ON/OFF switch (6) to OFF
- Check with the type plate which supply voltage is suitable for the unit on hand. 110-120VAC and 220-240VAC **or** 24VDC
- Set the mains voltage switch (4) to the correct setting for the available supply voltage (110-120V **or** 220-240V)
- Ensure that the correct fuse is inserted. Refer to the technical data.
- Pre-select the outputs to be controlled by setting multi-position switch (7), as desired
- Set the potentiometers delay and impulse time (10)(11) according to the specifications of the filter manufacturers.

  Select the operating modi by means of the DIP switch (19):

DIP switch 3 ON	⇨	start the controller either via remote cont control or pressure difference switch (refer to Section 7.1).
DIP switch 3 OFF	⇨	Controller direct start at connecting supply voltage.
DIP switch 2 ON	⇨	Nominal operating pressure test (refer to Section 7.3). Pressure switch on storage column must be in place.
DIP switch 2 OFF	⇨	Nominal operating pressure is not tested.
DIP switch 1 ON	⇨	Additional valve function test, only when DIP switch 2 is set to ON (refer to Section 7.3).
DIP switch 1 OFF	⇨	Valve function not tested.

- Pre-select the number of post cleaning cycles required via multi-position switch (12) (refer to Section 7.4). Post cleaning is only available when the remote control function is used. DIP switch 3 ON.
- Re-check that the controller is correctly connected in accordance with the connection diagram, drawing 5.1.
- Connect the supply voltage according to the type plate and activate the controller by using the ON/OFF switch (6).

HAINKE Staubfilter GmbH

P.O. Box 12 48
27795 Hude

An der Imbäke 7
27798 Hude

phone +49 4408 8077-0
fax +49 4408 8077-10
e-mail info@hainke.de
web www.hainke.de

Operating instructions

electronic solenoid valve control type IFC 12

Signalling	The following LED's will come on after the controller has been switched on:		
	active (green)	(17)	if remote control function is active, start via 1 signal on input "R"(refer to Section 7.1)
	next output (green)	(8)	
	operational message (green)	(20)	only if controller is ACTIVE
	signal "P" (yellow) pessure switch input	(21)	
	signal R (yellow) remote control	(22)	depends on switch status of connected trigger
Start with remote control	The dedusting process commences as soon as 1 signal is detected at input R. The connected solenoid vales will be controlled with the selected impuls-delay periode. 0 signal at input R stops the valve control. The control continues with a renewed star. If post cleaning cycles are pre-selected, the valve control stops after it has finished the post cleaning. The control continues with a renewed start		
Remote control OFF	The dedusting commences as soon as the supply voltage is connected. The connected solenoid vales will be controlled with the selected impuls-delay periode.		
	• Check that the solenoid valves are working correctly At a fault-free drive the operational message contact remains closed for the complete run. LED (20) lights without interruption.		
	• After completing the commissioning: Screw the lid on again and check the cable entries. Not needed cable entries must be closed with stoppers. (Only relevant for the control in add on housing)		

HAINKE Staubfilter GmbH

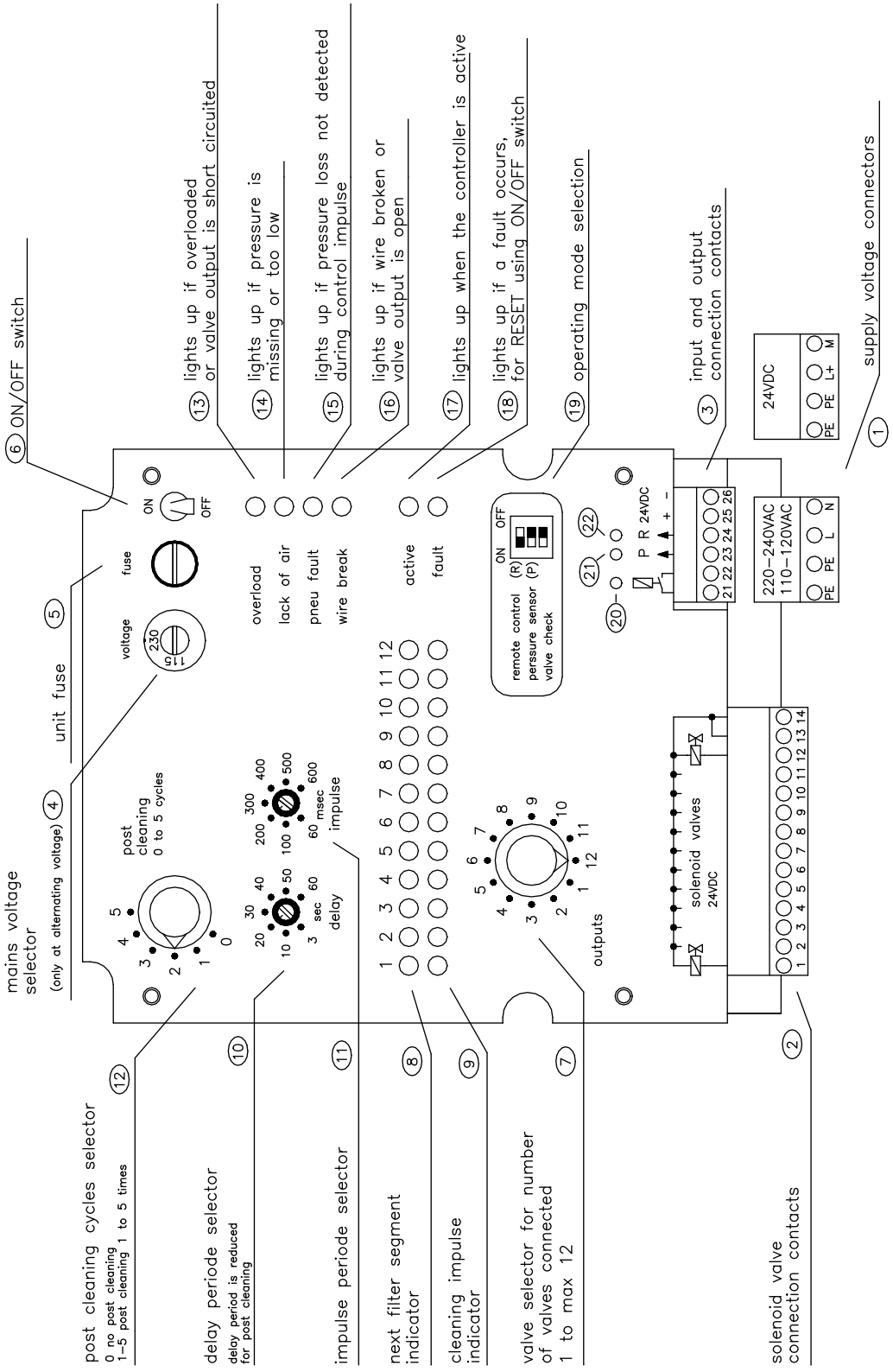
P.O. Box 12 48
27795 Hude

An der Imbäke 7
27798 Hude

phone +49 4408 8077-0
fax +49 4408 8077-10
e-mail info@hainke.de
web www.hainke.de

Operating instructions

electronic solenoid valve control type IFC 12


6 ON/OFF switch
13 lights up if overloaded or valve output is short circuited
14 lights up if pressure is missing or too low
15 lights up if pressure loss not detected during control impulse
16 lights up if wire broken or valve output is open
17 lights up when the controller is active
18 lights up if a fault occurs, for RESET using ON/OFF switch
19 operating mode selection
3 input and output connection contacts
1 supply voltage connectors
5 unit fuse
4 mains voltage selector (only at alternating voltage)
post cleaning 0 to 5 cycles
delay msec sec impulse
overload
lack of air
pneu fault
wire break
active
fault
remote control (R)
perssure sensor (P)
valve check
ON OFF
P R 24VDC + -
21 22 23 24 25 26
24VDC PE PE L+ M
220-240VAC 110-120VAC PE PE L N
solenoid valves 24VDC
outputs
1 2 3 4 5 6 7 8 9 10 11 12 13 14
12 post cleaning cycles selector 0 no post cleaning 1-5 post cleaning 1 to 5 times
10 delay periode selector delay period is reduced for post cleaning
11 impulse periode selector
8 next filter segment indicator
9 cleaning impulse indicator
7 valve selector for number of valves connected 1 to max 12
2 solenoid valve connection contacts

Drawing 6.1:
Front panel overview

HAINKE Staubfilter GmbH

P.O. Box 12 48
27795 Hude

An der Imbäke 7
27798 Hude

phone +49 4408 8077-0
fax +49 4408 8077-10
e-mail info@hainke.de
web www.hainke.de

7 Control and signal funtions

7.1 Remote control input R

It is possible to control the controller remotely via input R on contact strip (3). The following switch types may be connected to input R.

1. potential-free contact (switch or relay)
2. switch with electronic output PNP
3. 12 to 30 VDC, against 0 V
4. the input is reverse polarity safe

The remote control function is activated by setting DIP switch 3 (16) to ON and de-activated when that switch is set to OFF. The DIP switch position may be changed whilst the controller is in operation.

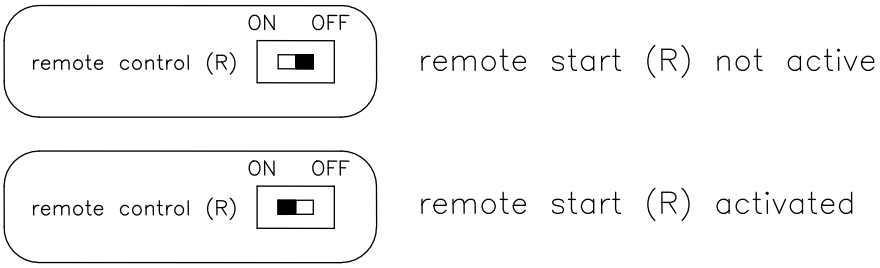


Illustration 7.1: Possible settings of DIP switch

If the remote control function is activated, the dedusting process commences as soon as 1 signal is detected at input ***R*** LED (22) lights up.

If the remote control function is not active, then dedusting commences as soon as the supply voltage is connected.

Input R may alternatively be used for connection of a pressure difference switch. This starts the dedusting process in dependence to the filter resistance.

If the pressure difference switch is to be connected to input R as well as the remote control, then the remote control start signal must be wired in series with the pressure difference switch contact.

7.2 Operational message

A potential-free normally open relay contact is available on contact strip (3) for indicating the operational status.

The operating relay only closes if the controller is switched to ACTIVE. If a fault occurs, such as overload or wire break, the operating relay will open.

The controller will continue operation without interruption.

The relay will close again as soon as no further faults are detected. The green LED (20), above contact strip (3) will light up.

HAINKE Staubfilter GmbH

P.O. Box 12 48
27795 Hude

An der Imbäke 7
27798 Hude

phone +49 4408 8077-0
fax +49 4408 8077-10
e-mail info@hainke.de
web www.hainke.de

7.3 Pressure Switch Input P

Nominal Operating Pressure Test

The nominal operating pressure in the pressure storage column can be monitored by connecting a pressure sensitive switch to input "P", contact strip (3).

The following switch types may be connected to input "P" :

Potential free contact (normal pressure switch);

Switch with electronic output PNP;

Direct current between 12 and 30VDC, against 0V.

The input is reverse polarity proof.

The nominal operating pressure test function is activated by setting DIP switch 2 (19) to ON, it is de-activated by setting this same DIP switch to the OFF position. The DIP switch position may be changed whilst the controller is in operation.

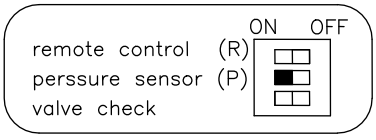


Illustration 7.2: DIP switch 2 settings

The nominal operating pressure test occurs at the end of the delay.

If a signal is not detected at input "P", the LED "lack of air" (14) will light up. This indicator goes off if a 1 signal is detected at input "P" when the test is repeated at the end of the following delay.

If a 1 signal is detected at input "P", yellow LED (21) will light up.

Valve Function Test

In addition to testing the nominal operating pressure, the pneumatic function of the currently controlled valve can also be tested.

This is conditional on the nominal operating pressure test, DIP switch 2 being set to ON.

The pneumatic function test is activated by setting DIP switch 1 to the ON position.

Illustration 7.3: Positions of DIP switches 1 and 2

The positions of these DIP switches may be altered whilst the controller is operational.

Nominal operating pressure prevails in the storage column at the end of the delay period. The pressure switch indicates this with a 1 signal at input "P".

When the valve currently under control is functioning correctly, the pressure in the pressure column must have sunk by at least 1 bar at the end of the control impulse. The pressure switch opens and the signal at input "P" changes from "1" to "0".

If a drop in pressure is not detected, it may be assumed that the valve is not functioning properly and the LED "pneu fault" (15) will light up.

If a pressure fall off is detected when the next valve is tested, at the end of the control impulse, then the indicator will go off again

7.4 Post Cleaning

The "post-cleaning" selector switch (12) may be set to values between 0 and 5 and enables post cleaning of the filter after the controller has been switched off via input "R" with reduced delay period.

The number of cleaning cycles can be set to between 0 and 5 via the selector switch. If this switch is set to "0", there will be no post cleaning. If the controller is switched OFF, it will come to a standstill immediately following the end of any dedusting impulse (operating mode STANDBY").

If the selector switch is set to values between 1 and 5, the controller will switch over to post cleaning. Any sequence which has already commenced will be further processed using the shortened delay period. Post cleaning itself commences with the beginning of the next cycle.

8 Fault messages

If any of the faults: overload, pneumatic fault or wire break occur, then LED "Fault" (18) will light up.

This indicates that a fault has occurred, regardless of whether or not the fault condition still exists.

This indicator can only be RESET by switching off the ON/OFF switch (6).

Important Notice

It is necessary to wait approximately 20 seconds after switching off supply voltage before re-starting, otherwise there may be an undefined signal status due to incomplete drainage of the capacitors.

HAINKE Staubfilter GmbH

P.O. Box 12 48
27795 Hude

An der Imbäke 7
27798 Hude

phone +49 4408 8077-0
fax +49 4408 8077-10
e-mail info@hainke.de
web www.hainke.de

8.1 Causes of fault and elimination

Messages	Indication	Causes of fault	Elimination
overload	LED red This indicator will go off when the next non-faulty impulse is received.	Solenoid valve output overloaded or short-circuited during the control impulse.	• Check the valve connection • Check the power of the conntected solenoid vales. Pay attention to the maximum output power. • Check the valve
wire break	LED red This indicator will go off when the next non-faulty impulse is received.	No output load during the control impulse or short-circuited valve output.	• Check the settings of the multi-position switch (7). The number of connected valves must agree with the adjusting of the multi-position switch • Check the valve connection • Check the valve
pneumatic fault	LED red This indicator will go off when the next non-faulty impulse is received.	The pressure switch at input P indicates no signal change at the end of the control impulse. The pneumatically valve control is faulty	• Check valve function • Watching to the manometer at the pressure column. The pressure must have sunk by at least 1 bar at the end of the control impulse. • Check the connection, adjustment and hysteresis of the pressure switch • If no function test shall be carried out, switch the DIP switch 1 (19) to the OFF position.
lack of air	LED red	The pressure switch input P indicates no signal at the end of the delay time.	• Check the compressed air and the pressure switch • If no monitoring of the compressed air shall be carried out, switch the DIP switches 1+2 (19) to the OFF position.

HAINKE Staubfilter GmbH

P.O. Box 12 48
27795 Hude

An der Imbäke 7
27798 Hude

phone +49 4408 8077-0
fax +49 4408 8077-10
e-mail info@hainke.de
web www.hainke.de

EC Declaration of Conformity

electronic solenoid valve control type IFC 12

Herewith we declare that the electronic solenoid valve controls

IFC 12 E in add-on housing polycarbonate IP65
IFC 12 PE in add-on housing polyester IP65
IFC 12 S with metal chassis IP20

comply with following relevant regulations:

- EC directive **2004/108/EG** on electromagnetic compatibility
- EC low voltage directive **2006/95/EG**

Applied standards:

- EN 61000-6-1
- EN 61000-6-2
- EN 55014-1
- EN 60204-1

Further we declare that in addition to the regulations specified above the electronic solenoid valve controls

IFC 12 E in add-on housing polycarbonate IP65
IFC 12 PE in add-on housing polyester IP65

comply also with the

- EC directive **94/9/EG** *Equipment and protective systems intended for use in potentially explosive atmospheres*

Applied standards in addition to those listed above:

- EN 60079-0
- EN 60079-31

Hude, *26.02.2015*

(R. Hainke – Geschäftsführer)